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Disaster Study Number 5

The Child and His Family in Disaster: A Study of The 1953 Vicksburg Tornado

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Committee on Disaster Studies

National Academy of Sciences—
National Research Council

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The Committee on Disaster Studies is a committee of the Division of Anthropology and Psychology, National Academy of Sciences—National Research Council. It was established as the result of a request made of the Academy—Research Council by the Surgeons General of the Army, the Navy, and the Air Force, that it "conduct a survey and study in the fields of scientific research and development applicable to problems which might result from disasters caused by enemy action."

The function of the Committee is to aid in developing a field of scientific research on the human aspects of disaster. The Committee maintains a clearinghouse on disaster research, publishes a roster of scientific personnel in the field of disaster research, and issues periodically a Newsletter. It makes modest grants to encourage research in disaster studies, advises with responsible officials on problems of human behavior in disaster, and from time to time issues reports on the results of disaster research.

At present its activities are supported by a grant from the Ford Foundation, and by a special grant from the National Institute of Mental Health of the Department of Health, Education and Welfare.

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A tornado struck the Saenger Theater, Vicksburg, Mississippi, December 5, 1953, during a Saturday matinee. A majority of the eighty-seven people in the theater were children. Twenty-five children were trapped; five were killed, and twenty were injured.

national research council

Disaster Study Number 5
Committee on Disaster Studies
Division of Anthropology and Psychology

THE CHILD AND HIS FAMILY IN DISASTER

A Study of the 1953 Vicksburg Tornado

by

Stewart E. Perry
Earle Silber, M. D.
Donald A. Bloch, M. D.

A joint project of the National Institute of Mental Health, Public Health Service, Department of Health, Education and Welfare, and the Committee on Disaster Studies, with the assistance of the Department of Public Welfare, State of Mississippi.

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PREFACE

This is the fifth in a series of disaster study reports to be published by the Committee on Disaster Studies. This series is designed to make the findings of disaster research more accessible to research workers and to agencies and officials concerned with disaster problems. It includes studies which have been completed for some time but which have not been previously published, as well as recently completed studies. The study reported herein was jointly conducted and supported by the Committee and the National Institute of Mental Health of the Public Health Service, Department of Health, Education and Welfare. The Committee's share of support was provided under Contract Number DA-49-007-MD-256 between the Department of the Army and the National Academy of Sciences-National Research Council.

This study reports and analyzes findings on a subject of commanding interest to every one concerned at all with the human aspects of disaster--the psychological effects of disaster upon children. To the data collected during World War II, bearing especially upon the problem of child-parent separation by evacuation, it is important to add field studies of children and their families in peace time disasters. This is no easy research task. The authors have approached it with both courage and modesty.

No study could be a finer example of cooperation and active participation by many agencies and individuals at local, state and national levels. While the authors assumed the major technical burden, the study would not have been made without the tireless help of Mr. Barent Landstreet of the Federal Civil Defense Administration who made the initial arrangements in Mississippi, as well as participating in the original conception of the project. Dr. Felix Underwood, Commissioner of Health, Mr. J. A. Thigpen, Commissioner of Public Welfare and Mr. J. M. Tubb, Commissioner of Education of the State of Mississippi, invited the study and gave it their support and encouragement. The Mississippi Department of Public Welfare contributed indispensably to the data collection by providing the help of three trained interviewers. Mrs. Sarah Caldwell arranged for this and helped in many other ways. Citizens and officials in Vicksburg gave not only their support and encouragement but also their active help. Many of the persons who worked directly with the study are mentioned by the authors in their "Acknowledgements." To these we wish to add the names of Mr. George Buelow, Director, Warren County

Department of Public Welfare; Mr. J. Noel Nutt, County Superintendent of Education, Warren County; Mrs. R. H. Fenstamacher, Chairman, Vicksburg-Warren County Red Cross; Mr. O. J. Bori, Board of Supervisors; Mrs. D. T. Imri, Chairman, Vicksburg PTA Council; Dr. Estelle Magiera, State Department of Public Health; Miss Mary Walker Mahon, Director, Child Welfare Division, State Department of Public Welfare; and Mr. Hendrix Dawson, Mississippi State Civil Defense Director.

All who participated in the project did so with the hope that it would benefit the children of Vicksburg, as well as provide research data. To show the earnestness of the citizens of Vicksburg in this respect, it is important to record that a Jaycee campaign, headed by Mr. John Halpin of the Junior Chamber of Commerce, raised $3,000 to enable Dr. Magiera to continue the Child Guidance Center in Vicksburg.

The research was formulated and directed by Dr. Bloch, the senior investigator, and by Dr. Silber, the other principal investigator. Dr. Bloch was then Chief, Children's Service, National Institute of Mental Health. Dr. Silber holds this position now. Mr. Perry joined the project after the data collection to collaborate in the analysis and conceptualization and to him fell the task of writing up the results of the work.

Issuance of this report does not necessarily indicate concurrence of every member of the Committee on Disaster Studies in every statement made in the report, nor does publication imply endorsement of factual accuracy or opinion by any of the supporting agencies.

Carlyle F. Jacobsen
Chairman
Committee on Disaster Studies

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The authors wish to express their gratitude especially to Jeannette F. Rayner, Staff Associate of the Committee on Disaster Studies, who provided valuable assistance throughout many phases of the project. Many important suggestions and criticisms were made, in the course of the project and during the preparation of the report, by other staff and members of the Committee on Disaster Studies and the National Institute of Mental Health. This help is greatly appreciated, but it should be clear that the responsibility for the limitations of the work rests with the three authors.

Our greatest indebtedness is, of course, to residents of Vicksburg who gave us free and full accounts of their experiences during and after the tornado and who cooperated in many ways to make the project possible. Although we cannot mention all the parents, teachers, pediatricians, and welfare workers who helped us, we do want to note gratefully the assistance of H. V. Cooper, Superintendent of the Vicksburg City Schools; Mrs. L. Hood, President of the Vicksburg Parent-Teachers Association; and Dr. J. C. McGuire, formerly Director of the Warren County Health Department. These three public-spirited citizens constituted the local committee that made many of the arrangements vital to the acceptance and progress of the project. We must also mention the whole-hearted cooperation of Mrs. Sarah Caldwell of the Mississippi Department of Public Welfare. It was she who arranged for us to have the valuable services of her staff members, Lucille Jolley, Esther Read, and Mary Eva Rogers, who did such a good job in conducting many of the interviews with the Vicksburg families.

Gwendolyn Boklund and Eunice P. Kennelly have helped us immeasurably by their understanding assistance in the typing and preparation of our material. Finally, we want to express our deep appreciation of the encouragement of Harry B. Williams, Technical Director of the Committee on Disaster Studies, whose patience and interest has been proverbial.

The financial support of the project was assumed jointly by the National Institute of Mental Health and the Committee on Disaster Studies, National Academy of Sciences-National Research Council. All data on the identity of respondents who cooperated in the study has been changed to preserve their anonymity.

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THE CHILD AND HIS FAMILY IN DISASTER

INTRODUCTION

This report describes how children responded to a community disaster -- the Vicksburg, Mississippi, tornado of December 1953. We have sought to describe their reactions over time to the tornado experience, especially their behavior in terms of the family context in which they occurred. The central question explored was as follows: What sorts of experiences seem to make children more susceptible to emotional disturbance after a disaster. This very general question was reformulated in the course of our investigation to involve three groups of questions about the child's emotional condition as it could be related to (1) pre-disaster experiences; (2) the specific kinds of disaster experiences (involvement events) that the child underwent; and (3) the manner in which his family and other significant persons dealt with the disaster experiences in their relations with the child. The last two categories received the most attention in our investigations. In the course of our work, we have also come to some conclusions about the process of carrying out disaster research. These conclusions we will also present, together with some preliminary recommendations on the problem of dealing with children after a disaster experience.

BACKGROUND OF THE STUDY

On Saturday, December 5, 1953, at about 5:35 p.m., a tornado hit Vicksburg, Mississippi. Vicksburg lies in an area in which tornadoes are frequent. Many precautions -- such as warning systems -- are taken, but this tornado hit the city with virtually no warning at all. Vicksburg had never been struck by a tornado before, and there was, in fact, a generally held belief that Vicksburg would never be hit. Many in the community felt that the city was somehow immune to tornadoes because of the hills surrounding much of the city. Yet the southerwestern edge of the city is bound by the Mississippi River and not by hills; and it is from the southwest that tornadoes tend to travel. In actuality, it was this "exposed" area through which the tornado approached the city. In ten minutes the storm had passed over, but in its path it had left considerable damage and loss of life.

One of its main targets was a motion picture theater filled with children watching a late matinee. The destruction of this theater, trapping some and killing others among the audience of children, was the particular reason why this disaster was chosen for study. Investigating the misfortunes suffered by these children would, it was hoped, provide information which could be used to help children and their families in later disasters.

It is important to bear in mind that the focus of the inquiry is primarily clinical in terms of finding out what helps or hinders an adequate recovery from the trauma of disaster. The two psychiatrists who formulated the study were already conducting other clinical research in child psychiatry; the social scientist, who joined the project after the collection of the data, had also worked mostly in a clinical setting. The clinical interests of the investigators seemed pertinent in this instance to the interests of the Committee on Disaster Studies; therefore this Committee, with the National Institute of Mental Health, commissioned the study in the hope of obtaining some preliminary guides for preventive and remedial action in future disasters.

Information on children's disaster experiences was particularly necessary because no studies of this sort had previously been

conducted.[1] An examination of the literature shows that the main contributions in the general area of children's reactions to disaster concern war experiences almost exclusively.[2] The wide applicability of these studies is doubtful since the social conditions of war-time community destruction are so different from those of natural disaster. It is interesting to note, however, that in the literature of U.S.S.R. psychology there are two reports of children's responses to natural disaster.[3] Both of these concern earthquakes and primarily describe symptomatically the psychopathology of about a dozen cases in all. Thus the present study has been conducted in a context of very little previous work, so that the primary goal of this study was not to get definite answers to possible research questions, but to outline some possible questions that might be studied in more detail in the future and to provide tentative answers that might have provisional usefulness in practical terms.

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1. Of course there have been many psychiatric studies of children and their families in stress situations of routine occurrence - such as the death of a family member after illness.

2. Two early bibliographies are included in Helen T. Conover, Children and War: A Selected List of References; U.S. Library of Congress, Division of Bibliography, Washington, D.C., 1942; and J. L. Despert, Preliminary Report on Children's Reactions to the War, Including a Critical Survey of the Literature; Cornell University, New York, 1942. An intensive and thorough study is reported in two books by Dorothy T. Burlingham and Anna Freud, War and Children and Infants Without Families, both published in New York by International Universities Press, 1944. Closest to our own study is an excellent article by Charlotte J. Carey-Trefzger, "The Results of a Clinical Study of War-Damaged Children Who Attended the Child Guidance Clinic, The Hospital for Sick Children, Great Ormond Street, London," J. Ment. Sci. (1949) 95: 535-559.

The Committee on Disaster Studies maintains a bibliographical reference file on disaster and related subjects. A subordinate section of this file is devoted to materials on children.

3. A. E. Blankfel'd and A. I. Meerzon, "Structure of psychogenic psychoses in children during earthquakes," Nevropatologiia i Psikhiatriia (Jan.-Feb. 1950) 19, 1: 85-86. T. Simson, "Psychic and psychotic reactions of adults and children in earthquakes," Z. ges. Neurol. u. Psychiatr. (1928) 118: 130-143. (The titles of these two articles are translated here.)

The rationale for the present study should be seen in terms of one of the top priority questions that arise, with the coupling of psychiatric and disaster research: What are the mental health needs of a community which has suffered a disaster, such as a tornado? In general, these questions are related to the nature of the problem of disaster as a public health concern.[4] That is, disasters are traumatic events which encompass so many people at one and the same time, that the ordinary socially-institutionalized means whereby individuals meet their needs for rehabilitation do not suffice. For example, one case of polio may be handled relatively easily by a family through their individual use of the resources of the community: a family doctor, a hospital, consultants, and so forth. But the resources of a community will not stand up under the demands caused by an epidemic of polio, unless the handling of the problem is organized in an over-all pattern of attack. In addition to the general supersaturation of service facilities there is another aspect of disaster which makes it a public problem: The socially-disorganizing effects of a disaster are not merely the additive effects of many individual traumas; there is something more which can be considered the group or community trauma.

The widespread social effects of a disaster, then, require that the methods used in recovering from the disaster must be geared to the whole community of those affected, on a group basis. The first requirement is that the public health problem must be defined in terms of its extent, and this extent measured against the facilities that can be made available to handle it. The central problem in the public health study of disaster is case-finding, to estimate the extent of the need for health resources. The subsidiary problem is the determination of what measures are available and can be undertaken to meet the needs.[5]

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4. A thorough survey of the important mental health questions about civilian disaster is presented in the Report of the Subcommittee on Civil Defense, Community Services Committee, National Advisory Mental Health Council, Mental Health Implications in Civilian Emergencies (Public Health Service Publication No. 310); U.S. Govt. Printing Office, Washington, D.C., 1953.

5. A case can be made out that available public health facilities define the extent of the needs for such facilities. On a practical basis this contention has to be seriously considered.

Because of the nature of disaster, the hazards to public health are widespread, and community facilities are rarely, if ever, capable of giving the optimum attention to every person who needs attention. That is, the attention available for an individual is, in part, determined by the demands for attention by others. Since, in this sense at least, facilities will always be limited, there must be some means of differentiating cases on a priority basis for the allocation of available resources. From this standpoint, research in children's behavior in response to disaster can be approached first with the goal of defining the extent of mental health needs brought about by disaster. Some reliable case-finding technique would need to be evolved. Second, this technique should, if possible, contribute knowledge about the degree of need for available services. Third, in view of the limited psychiatric and other mental hygiene resources usually available, general prescriptions must be evolved for those needy cases for which clinical service facilities will not be available. That is, every family who needs help with disaster-disturbed children must be provided with some minimum guidance about dealing with their problem, without reliance upon clinical facilities. The help should be in the form of widely circulated information on common problems; it should also include facilitation of the use of any immediate professional contacts a family might have--for example, teachers, pediatricians, religious leaders, and so forth. A final problem is the development of a specialized clinical program to meet those needs which can only be dealt with professionally.

The study of the relationship of involvement events to symptom formation offers one possible avenue toward the development of a case-finding technique. If it can be established that certain experiences during a disaster, no matter what the other aspects of the situation are, tend to be correlated (even indirectly) with symptom formation, then it will be relatively easier to define the extent of the mental health problem so far as an individual disaster is concerned. Moreover, if it can be established that certain involvement events tend to be highly correlated with different <u>levels</u> of symptom formation, it will also be possible to determine a system of priorities for individual clinical attention. Thus some progress will have been made towards the solution of the first two public health problems of children's emotional needs stemming from disaster. (On the other hand, a finding that involvement events do <u>not</u> correlate with symptom formation would be of equal importance.)

Granted that there would be some usefulness in answering the sort of questions envisioned here, can they be answered? There are two kinds of obstacles to answering the questions. There are, first, the problems inherent in the study of uncontrolled social situations and, second, the problems of the choice and design of techniques to answer social research questions.

In choosing to look into the possibility that involvement events will be an important single clue to the extent of emotional disturbance suffered by children after a tornado, we recognized that we were trying to extract some single, simple, crucial variables out of an extremely complex situation. The history of social and psychological research is not often marked by the discovery and description of single crucial variables. Is there any reason to suppose that the pattern of a tornado experience and children's behavior in response to it is basically any different from other subjects of psychological and social research?

The reason lies in what seem to be some rather significant aspects of many natural disasters, which aspects tend to make this research aim more promising here than in other types of social problems. For example, some sorts of disasters--such as floods--occur mainly in certain specific geographical areas. Furthermore, almost any disaster is relatively nonselective of its victims within the locale of its impact. For example, a tornado is, in the nature of things, nonselective about which persons it will kill, maim, frighten, or what-not, within the confines of the tornado-prone area. That is, if a tornado strikes a Delta town, it does not single out the homes of the normal or the neurotic, the obsessional or the psychotic, or any psychological classification of people: All persons within its path are affected. In other words, a high degree of chance seems to determine (within tornado-prone areas) who will be spatially affected by the disaster. This may have the result of controlling, for the mental health researcher, some important variables, according to chance distribution--for example, predisposition to mental illness. On the other hand, it is certainly true that a tornado may be somewhat selective in socio-economic terms in that it may happen to strike only the suburban middle-class section of a city, or it may instead only travel along the railroad tracks and the shanties in a lower-class section. In such instances, social research has developed means of describing such a class bias in terms of general incidence of mental illness.

These characteristics of tornado disasters tend to simplify the problem for the researcher. Or at least they are considerations which would lead one to hope that certain aspects of the disaster will have a higher probability of being fruitfully studied than might otherwise be the case. Within such a context, then, it would appear feasible to single out specific involvement experiences as possibly being of important differential significance in the production of trauma and resultant emotional disturbance. Especially is this feasible when the very nature of the disaster means that the whole complex of processes that can be called predisposition (with the possible exception of class status differences and their concommitants) is rendered irrelevant for certain purposes of research in that disaster. Since a tornado does not choose between those predisposed and those not predisposed to emotional disturbance, a simply described sample chosen on the basis of involvement events ought to show a chance distribution of predisposition.

In summary, unlike many other simple variables, readily accessible and presumably significant, in a social research problem, tornado involvement events are <u>not</u> interactional products which are <u>both</u> a function and a determinant of a dependent variable. If there is a causative relationship between involvement events and emotional disturbance, then there is a likelihood that it will be a fairly simple, linear one. Thus the first group of obstacles, important as they generally are in social research, <u>may</u> be manageable.

The second group of obstacles to the feasibility of a project such as ours is much less fundamental but just as troublesome. These are the problems of defining and refining techniques which will effectively describe the two main categories--involvement events and emotional disturbance--as well as any other variables which may seem necessary to describe. Since this report is not very much concerned with the comparative methodology of social research in disasters, and since methodology problems are those of social research in general and not just of disaster research in particular, they will not be discussed here. For example, we will not be concerned here with the general adequacy of the sampling techniques which we used. We recognize that their limitations will be immediately apparent to most social researchers. We would like to emphasize that at this stage in the exploration of this research area, sampling procedures were not the most important to concentrate upon. We, therefore, place less confi-

dence in the usefulness of the statistically described conclusions which we have drawn from our investigations and more confidence in the present usefulness of the general, qualitative observations. For the most part, we will use the statistical descriptions[6] simply as points around which to organize some related, impressionistic observations.

6. Note that we consider our statistical findings as descriptions rather than as discoveries.

CONDUCTING THE STUDY

Upon the invitation of the Mississippi State government, the two psychiatrists made a four-day visit to the scene of the disaster about ten days after its occurrence. They talked with parents, children, teachers, and community leaders. This experience enabled them to outline the main problem areas in which to seek further information. A local citizens' committee was then set up to seek community cooperation for extensive questionnaire and interview inquiries. Upon returning from their initial trip to Vicksburg, the two psychiatrists reported: "We felt that one of the most important aspects of the experience in Vicksburg were the lessons one could learn about some aspects of community organization. It was apparent in our contact with community leaders that unless their own needs were recognized and dealt with in a therapeutic way, no progress could be made in terms of mobilizing community interest in the research implications of the disaster. It is important to recognize that there will be resistances of the community to a group of investigators, and these resistances must be dealt with understandingly. We found it valuable to express and reflect an attitude of sensitivity to the needs of the community, first of all, and to attempt to help the community with dealing with these needs." For example, it might be necessary to consider the immediate problems which an individual community leader was experiencing with his own children who had suffered in the disaster. The researchers' concern with such immediate problems helped to allay some suspicions that they would "tamper" with the uneasy adjustments that many persons had had to make in the aftermath of the tornado. To illustrate this, we quote from a summary report of one of the group meetings of community representatives and the two psychiatrists:

> [Mr. A] expressed the feeling that he wanted to be sure in our "experimentation" that we did not erupt something out of a potentially good situation as far as the kids' adjustment was concerned. One of the workers asked about what the experience had been in studies with adults following disaster. Bloch answered that the experience was that there was a rising curve of increased psychiatric disturbances [after a disaster]. And the worker asked again, "Was this perhaps due to the actual questioning by the investigators?" This question was ducked at this point, but Mr. A specifically brought up the question, "Was it a good thing or a bad thing to let kids rehash their

experiences?"

Silber turned the question back to the group, saying that he felt their experience in this would be one very useful source of information about this; he asked what had they found in their own personal experience. Mr. A said that in his opinion children recovered very quickly from an experience of this type but that he felt parents caused most of the difficulty because of their becoming upset.

. . . Silber asked again what the experience had been in the community among themselves in terms of meeting people on the street and talking with them about the disaster. The group gave much endorsement to the fact that there was a much warmer and a very friendly feeling that seemed to exist among the people in the town after the disaster. . . . Others said that they felt that it has pulled the community together. They felt that the children to some extent were affected in the same way.

Mr. B then came in and said that he was speaking at this point as a parent and expressed some overt concern about his own child. He said that his child's reaction is now worse, and he described her as having bad dreams now, which she did not have a week ago, immediately after the disaster. . . . Mr. A presented the question to the group, "Haven't we all had our own experiences as a kid when we couldn't sleep because of something that had happened." The group participated in confirming with their own experiences.

. . . At this point Bloch made the definite statement that he has never had the experience of someone talking about their feelings about something, and being damaged by it. This met with positive group agreement and was confirmed by items from their own experience as to the value of talking things out with other people.

Mr. B followed this up with a positive plea to the effect he wanted to know what he should do as a parent with his daughter who is suffering from very profound fears at the moment. At that point one of the workers made the suggestion that there was a need for something like group therapy for the parents. . . .

With the cooperation of the local committee, a questionnaire was sent two months later to all of the parents of children at one

of the (white) public elementary schools. This particular school was chosen because many of the children who were in the theater attended this school. On the basis of the returned questionnaires, families were selected to be interviewed. Contacting the families for this purpose was carried out with the help of the local parent-teachers organization.

The original plan of the study was to choose about eighty families of children reported on by these questionnaires, interview one parent in the family, and analyze quantitatively the interview protocols to see what sorts of experiences correlated with emotional disturbance. The interviews were to explore (1) post-disaster behavior of the child; (2) actual disaster experiences (involvement events) of the child, his friends, and family; (3) parental ways of handling the child after the disaster; and (4) basic information on family composition, ages, and so on.

In the school selected for obtaining the sample of families, 520 questionnaires were distributed to the children to take home to their parents. Of these, 427 were returned to the school. In turn, out of the families represented by these 427 children, 88 families were chosen for interviews. Three additional families, from those who had not returned their questionnaires, were selected for interviews, making a total of 91 families interviewed. These three were selected because other informants had mentioned that they had had a lot of trouble. The 88 families were selected from eight categories of children classified, on the basis of the questionnaires, according to their general disaster experiences. Thus, instead of a random sample, we chose families in order to study particular types of disaster experiences. The categories classified the children's involvement in the disaster as (1) "spatial"-- that is, some sort of physical involvement, such as being in a damaged building, being injured, and so forth; or (2) "interpersonal"-- that is, friends or family members were killed or otherwise "spatially" involved; or (3) "both"-- experiences combining categories (1) and (2); or (4) "none"-- no physical or interpersonal involvement. In addition, each of these categories were subdivided into those children who were emotionally troubled by their disaster experiences, and those who were not.[7] Table I

7. Presumably any one might be upset when he lives through a community disaster. The definition of emotional trouble here was that the child was still upset two months after the tornado, at the time the questionnaires were distributed.

TABLE I

Classification of the Children According to the Returned Questionnaires and the Sample Drawn for Interviews of the Parents

Classification by Questionnaire	Number of Children Within Classification	Number of Children Whose Parents Were Interviewed	Percentage of Children Whose Parents were Interviewed*
"None-No Trouble"	169	26	15
"None-Trouble"	69	17	25
"Both-No Trouble"	8	8	100
"Both-Trouble"	15	10	67
"Spatial-No Trouble"	16	7	44
"Spatial-Trouble"	38	11	29
"Interpersonal-No Trouble"	38	15	39
"Interpersonal-Trouble"	74	26	35
Totals	427	120	28

* Percentages are rounded to nearest whole number.

describes the children according to the classification made of the questionnaires. It should be emphasized that these classifications of the children were made by the simple expedient of gross inspection of the questionnaires and not by operationally precise criteria.

The 91 families interviewed represented 120 elementary school children on whom we had questionnaire information, and 65 additional children on whom we did not have such information. These 65 additional children were included in the study with the decision to consider as cases any siblings in the households who were also attending the elementary school or who were of pre-school age.[8] Thus the total number of children included in this study is 185. Table II describes the age composition of the sample.

A staff member of the Committee on Disaster Studies and three Mississippi State Welfare Department social workers conducted interviews with the 91 families, who were first contacted primarily by telephone. (Families without telephones were practically eliminated from the sample.) Interviews ranged in length from three-quarters of an hour to two hours, the majority lasting about one hour. The interviews took place about ten weeks after the disaster and were conducted in a relatively unstructured manner. Each interviewer was furnished with a topical outline of the kinds of subjects which he was to get the respondent to discuss. Aside from these two measures there was no attempt made to achieve strict comparability between interviews in terms of technique of interviewing, information obtained, and manner of reporting such information in the protocols. In other words, the interviews were conducted and reported in the freest possible manner.

Once the interviews were collected, the analysis proceeded by means of a description of each case according to the content of the interviews. That is, the manifest content of the interviews was coded to answer the following sorts of questions: (1) During the tornado, was the child at home or away from home? (2) Was he with his family, strangers, or friends? (3) Did those he was with comfort him or demand comfort from him? (4) Was he injured, trapped in wreckage, hospitalized? (5) Were any of his friends or family members killed or injured? (6) Did his parents report

8. Actually in practice a number of infants were excluded from our calculations.

TABLE II

Age Distribution of Children Whose Parents Were Interviewed

Age	Number
One to two years	19
Three years	12
Four years	10
Five years	10
Six years	27
Seven years	20
Eight years	20
Nine years	16
Ten years	18
Eleven years	15
Twelve years	16
Thirteen years	1
Fourteen years	0
Fifteen years	1
Total	185

that they, prior to the tornado, had emotional difficulties of any sort? In addition to these kinds of questions, which sought to describe the disaster events that the child experienced, the interview data was used also to determine whether the child was (a) mildly, (b) severely, or (c) not at all disturbed at the time the interviews were held. This determination was made by the two psychiatrists who collaboratively rated each child according to what the parent reported about him to the interviewer. Information gained by asking these questions of the data was entered on an IBM card for each child, and cross comparisons made.

The statistical analysis was conducted primarily to see how the psychiatrists' ratings of emotional disturbance were related to the other variables being considered--the disaster events that the child experienced. It must be noted that both the ratings and the variables abstracted from the manifest content of the interview protocols were obtained by a reading of the entire interview protocol, together with the questionnaires when these were available for the individual child being considered. Thus there is, in a sense, a certain intercontamination of the disturbance ratings and the disaster event variables in terms of their both deriving from the same protocol. However, the coding of the disaster experiences was undertaken by the third member of the team of investigators before the other two members made the ratings, so that from this standpoint a comparison of the two sorts of data seems defensible.

SYMPTOMATOLOGY OF EMOTIONAL DISTURBANCE AFTER THE DISASTER

According to the ratings, 113 children were not disturbed emotionally; 32 were mildly disturbed; 24, severely disturbed; and 16, insufficient data to make a rating. As used by the psychiatrists for their clinical judgments on the children, "emotional disturbance" meant the presence of overt anxiety, symptom formation, or intensification of pathological character traits. These evidences of disturbance were evaluated in terms of how the child was currently behaving--that is, at the time of the interview with the parent. We did not try to evaluate the child's disturbance in terms of his earlier behavior; the child might have shown a number of symptoms in the days right after the tornado, but if he was currently showing no disturbance, he was rated as not disturbed. In other words, we were really using a criterion of length of disturbance primarily, and only secondarily a criterion of extent or depth of disturbance. The primary criterion was especially appropriate since the main data upon which the child was to be rated were collected ten weeks after the disaster. Thus we avoided the problem of how to handle the more transient emotional difficulties that anyone might be expected to experience after having lived through a tornado.

Let us digress here for a moment to quote passages from some of the interviews with parents in order to describe some of the more significant symptoms which were found in the children after the disaster.[9] These response signs of the disaster experience were present in many children in the first hours or days after the tornado, and in some children they were still apparent ten weeks later. There were indications that the symptoms might persist for some time to come in the case of some of these children. The most frequent symptoms seemed to serve the function of re-establishing an earlier type of relatedness with parent figures. There was a general increase in dependency needs, a tendency to

9. There were other signs of having lived through the disaster experience besides what might be called symptoms. There were types of behavior that either are rewarded in the family or community, or do not appear as irritants in the child's or the family's life. These will be discussed later on.

remain close to the parent and close to the home:

> They [the children] won't go anywhere without me, except to school.
>
> They didn't sleep well. They'd get up and ask me to sleep with them, and I would.
>
> Janie wouldn't sleep by herself; she slept with her daddy.
>
> Nothing about school ever distressed her. Now there's always something wrong. She won't go to the bathroom, even with all the lights on, without someone being with her. One of us goes with her all the time. Before this happened she never thought anything of sitting alone in the dark watching TV. Now she doesn't want us out of her sight.

Other sorts of regressive behavior were also noted. There were reports of enuresis developing for the first time since toilet training was completed, of children asking to be dressed or fed, although they were already skillful in these activities, and so forth.

In addition there were other symptoms which appeared to deal more directly with the disaster experience itself. These included nightmares and marked sensitivity to any loud, sudden noise. There were also phobic and avoidance symptoms connected with experiences marginally related to the tornado. For example, some children were extremely reluctant to go to movies (even drive-in movies) or to other public gatherings; this symptom was found also in those children who had not been caught in the theater. There were fears about the structural safety of buildings and fears of fire, clouds, rain, and any unusual light in the sky. All of these, of course, referred to the peculiar characteristics of the specific disaster which the town had suffered. Parents reported:

> If the wind blows or there is a cloud, he shakes all over--just scared to death--and still it goes on.
>
> [Of a child who was in the theater:] She was afraid of crowds. She didn't want to go anywhere--no movies, ever. I don't know how I'm going to work on that. She's still nervous. Anything like a fire siren, anything, she just gets scared to death.

The days are a misery because they don't want to go to school, specially if there's a cloud. Both are awful nervous. The least little thing they scream out--they are out of control now. . .

Last week a car passing the school had a blowout and she jumped and ran. These diesel trucks worry her to death.

They have dental appointments next week but refuse to go if the weather is bad.

The first two or three nights he would wake up during the night and call me. I'd tell him everything was okay, and he'd go back to sleep again.

In the ensuing discussion we will examine statistically the group of disturbed children as compared with the group of undisturbed children, in those cases where we have the ratings of disturbance as well as information about the particular type of disaster experience being considered. This will mean that the subtotals of disturbed and nondisturbed children will be variously less than the totals we have already reported, since we did not get all the necessary information for all cases. (Dropping these cases for lack of information may have induced statistical error.) In addition to the presentation of the statistical findings on the 91 interviews we will present some of the qualitative observations and comments which came out of other exploratory interviews which were held during the first trip to the scene of the disaster.

In the comparison of the two groups of children, unless otherwise indicated, chi square tests were made to check whether or not a significant association appeared between emotional disturbance and each variable to which we tried to relate it. To begin with, it should be made clear that we sought to determine whether or not interviewer bias had anything to do with whether the child was rated as emotionally disturbed. The test showed no significant departure from the hypothesis of independence of interviewer and number of disturbed children. In other words, if there is any interviewer bias, it is shared in the same general degree among all the interviewers.

INVOLVEMENT EVENTS AND EMOTIONAL DISTURBANCE

The particular kinds of disaster experiences which the child underwent we have called involvement events. We sought to see if any of these were related to later emotional disturbance. In this way we hoped to isolate possible case-finding clues that might be used on a large scale (a) to assess mental health needs after a disaster and (b) to select children for possible psychiatric consultation after a disaster. We have examined certain involvement experiences in the disaster as if they had the same meaning for everyone who underwent them. For example, the experience of injury was handled in our study as if being injured meant the same thing to each person who was hurt. As a matter of fact, there is probably enough similarity in one's perception of disaster injury so that for certain purposes it can be assumed that everyone's perception is the same. However, it should be made clear that basically it is not the particular involvement event which can be related to emotional disturbance, for instance, but rather the meaning of that event to the person who experienced it. And the meaning of a particular type of event may differ importantly, for some purposes, from one person to another, depending on the situation in which it occurs. For example, if a father dies in a disaster, the event of the death may have a different meaning for a child who was, at the time of the disaster, quite involved in hostile feelings towards his father and preoccupied with aggressive and destructive fantasies, as opposed to a child who was not as concerned with such feelings and fantasies. Differences of meaning in an experience of the death of a parent may accompany sex differences in children at a particular age; thus, one might hypothesize that boys, say at the age of five or six, might tend to be more disturbed at the death of a father than girls of the same age. Important differences in the meaning of specific involvement events may be based on certain socially determined characteristics, such as the perceptions colored by sex or age statuses, but they may also be based on idiosyncratic personal history events.

We have assumed that there was a sufficient, broad, general commonality of meaning of the involvement events we singled out to justify treating the different experiences of each type of

event as significantly similar. Thus we have examined the occurrence of such experiences in the group of disturbed children in comparison to the group of undisturbed children to see whether any relationships existed between an involvement event and later emotional disturbance. In this manner, we found five statistically significant associations. Two others which we had expected to show up did not. Table III summarizes these findings.

Aware of the Tornado. Being aware of the tornado at the time that it happened and being later emotionally disturbed were significantly related in the children we studied ($P > .05$). Only those children who, the parents reported, did not know that an extraordinary storm was happening were considered to be unaware of the tornado--so long as the protocol did not indicate that the child's perception was corrected by someone during the storm. Being aware of the tornado is a gross variable and might be expected to stand as a kind of prerequisite for most other more traumatic involvement events--such as being personally injured. The fact that such a simple characterization of the child's disaster experience is significantly related to emotional disturbance is probably due to the fact that being aware of the tornado is associated with the more traumatic events.

In terms of awareness of the tornado we were interested, of course, in the perceptual definition of the situation. Did those who defined the situation to include the concept of tornado become more disturbed than those who never realized that a tornado was in the air, until long after it was all over? In order to really answer this question, it would be necessary to compare only those "aware" and "unaware" children who had had no other particularly traumatic experience. Thus, we would have to exclude all children who had been hurt, whose friends had been killed or hurt, and had family members killed or hurt; and include only children whose parents did not go to pieces at the time of the storm's impact. Unfortunately for statistical reasons we were unable to do this, so that our hypothesis about the perception of threat has not truly been tested.

Presence in the Impact Zone. Being present during the storm in the area which received the greatest impact of the storm was significantly associated with emotional disturbance ($P > .01$). "Presence in the impact zone" was recorded when the respondent reported that during the storm the subject child was downtown (the

TABLE III

The Relationship of Post-Disaster Emotional Disturbance to Other Variables

Emotional Disturbance	Impact Zone*		Life-Space Damage		Aware of Tornado*		Personal Injury*		Friends Killed or Injured		Family Killed or Injured*		Family Psychopathology*	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Severe	14	9	9	15	18	1	6	18	10	13	5	19	14	2
Mild	10	21	7	25	23	5	1	31	18	14	6	26	11	3
None	36	75	20	93	67	30	1	112	63	49	1	112	20	37

*A significant relationship is described between this variable and emotional disturbance. Note that in each column where there are underlined figures, the underlined figures were combined for statistical testing purposes. The figures are broken down here for purposes of presentation.

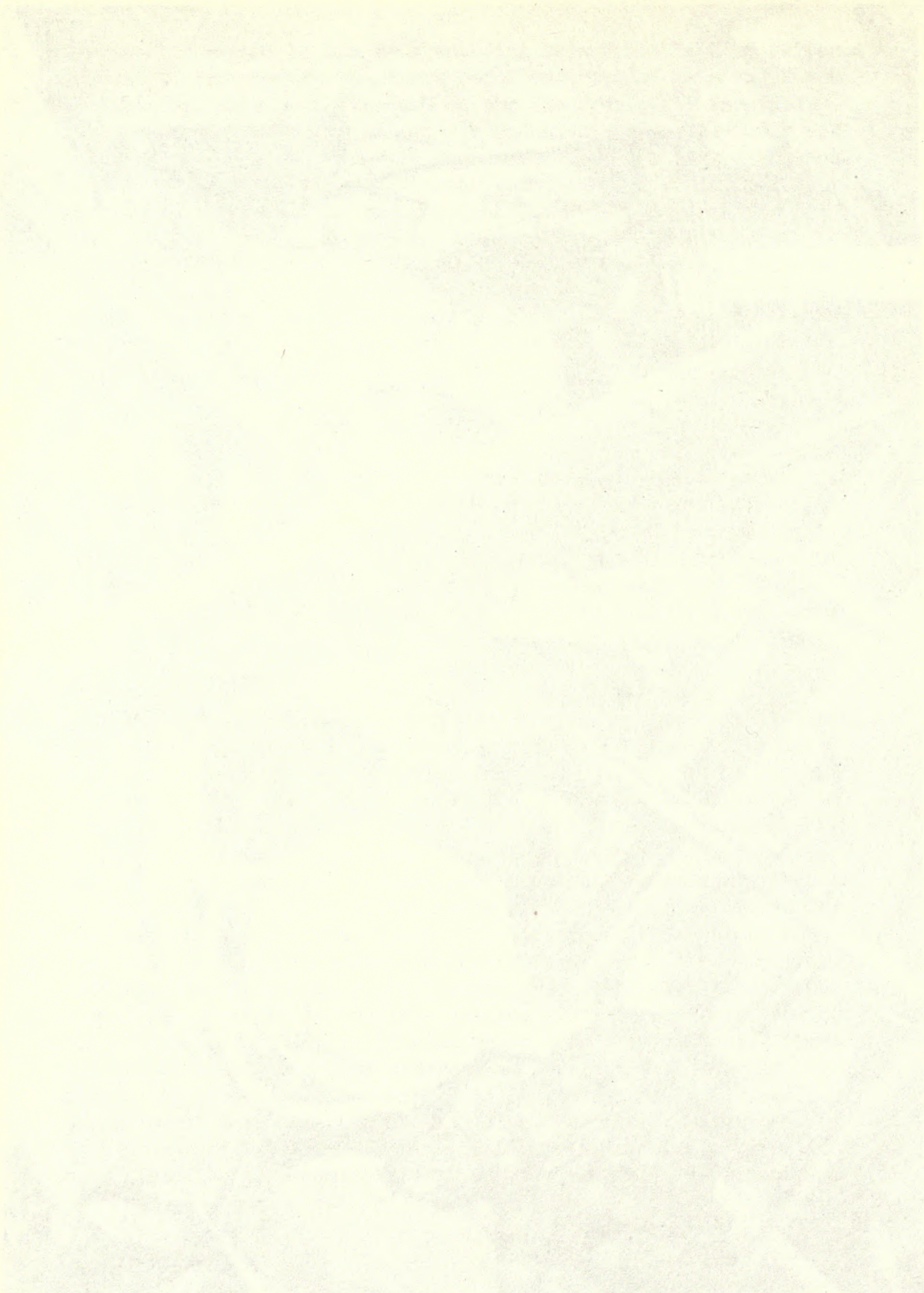
hardest hit area), or was in a building or automobile that suffered damage, or saw near-by buildings being destroyed. This experience variable is, thus, a refinement on the one previously reported. However, the association between it and disturbance held only for those children who were severely disturbed. The mildly disturbed child was more like the undisturbed child in this respect. The geographical location of the child in terms of the tornado's path is, therefore, not likely to be a very good clue to any but the most disturbed children. In view of the fact, however, that clinical facilities are apt to be quite limited, the most serious cases might comprise the maximum number that could be clinically handled anyway. Thus, if location in the impact area is a simple clue to the seriously disturbed, it might be developed as the only necessary clue to be used on a public health scale for determining post-disaster mental health needs.

Damage to Life-Space. A further refinement on the spatial experience of the child is provided by asking simply whether or not he was in serious threat during the storm by the damage or destruction of his immediate life-space--the physical enclosure (building or automobile) in which all children were at the time of the tornado. A respondent's report of the child's involvement in any sort of destruction of his physical enclosure--ranging from a broken window to a demolished building--placed the child in this category. No significant association was found, however, between such an experience and later emotional disturbance. This fact requires some interpretation in view of the preceding two relationships which held statistically.

First of all, one might surmise that the more refined our category of spatial experience the less relationship it seems to have to later emotional disturbance, and thus the more doubt is to be cast upon the actual significance of the grosser categories of spatial experience. This conclusion is contra-indicated by the fact that, as will be presented in a moment, other more precisely defined experiences are significantly associated with later emotional disturbance. A possible alternative interpretation is that the sample of families we studied whose houses were damaged probably experienced much less damage than a random sample would show. The respondents were contacted by telephone, and since more damage would mean a lesser likelihood of having a connected or paid-up telephone, our sample is probably biased in the direction of insignificant damage. To sort out, in any reliable manner,

Courtesy of Vicksburg Evening Post and Herald

Rescue work at the Saenger Theater



more serious from less serious damage was not possible with the data we had. Yet only in the instance of more serious damage to the immediate life-space of the child would there be the concommitants of trauma and resultant emotional stress and upset which we hypothesized.

Personal Injury. The most obvious kind of experience to sort out as potentially traumatic is, of course, injury. On the other hand, there are sufficient secondary gains in medical attention to make the hypothesis of emotional disturbance as a result of injury not at all self-evident; this is especially true in view of the fact that the emotional disturbance is defined in this study as disturbance existing at a point in time ten weeks after the disaster.

In our sample there were only eight children who had actually suffered injury in the tornado. Seven were injured severely--that is, they were hospitalized for at least 24 hours--and one suffered only a cut finger. The seven seriously injured were disturbed, and accounted for one-eighth of the disturbed children studied. The child with the cut finger was one of the 113 undisturbed children. The relationship between injury and disturbance was found to hold statistically with this small sample, upon applying Fisher's exact test ($P \gg .01$).

Involvement through Friends and Family Members. Although the child himself may not have been directly involved in the tornado, we hypothesized that he might nevertheless suffer deprivation through the involvement of his friends or family members. In other words, if the mother were hurt or if the best friend was killed, the child might have undergone deprivation and trauma as a direct result of the tornado, although the child himself might not have known that there was a storm until it was all over. The experience of loss, permanent or temporary, of friends or family members is an obvious possibility as a disturbance determinant. Logically, such loss can be considered a tornado involvement event in which the child is indirectly or vicariously involved in the disaster through the experiences of others, but practically speaking it is the direct deprivation rather than the vicarious involvement which is likely to be disturbing.

We tested statistically to see whether the death or injury of the child's friends was independent of his later emotional disturbance, and we found no significant association. Actually

before the test was made, we had grave doubt as to whether it would be a useful one, since our data did not allow us to make any differentiation as to the closeness or intimacy of the child's friendship with the killed or injured children. Our interviewers were not instructed to get enough information on the relationship of the child to the friends, so we could not distinguish between mere acquaintances or classmates and the really important chums the child might have had.

On the other hand, a significant association was found between the children's emotional disturbance and the occurrence of death or injury in the immediate family.[10] Here we had no difficulty applying a criterion which meant that the relationship of the child and the injured or killed person was a significant one. It is a commonplace that child or adult is upset by death or injury in the immediate family, and it would have been surprising if the Vicksburg children with such experiences were not disturbed even ten weeks after the disaster. Twelve of the children studied had immediate family members killed or injured in the tornado. Eleven of these were disturbed, and these cases accounted for somewhat less than one-fourth of all the disturbed children. Of the twelfth child, the interviewer noted that she could not get the respondent-mother to talk about him. Despite repeated attempts by the interviewer to get information on this child, the mother would return to the topic of the child's older sibling who had been injured. Perhaps a different rating might have been given by the psychiatrists if they had had additional information, but what information was available resulted in a "no disturbance" rating by the psychiatrists. We will later on return to the problem of such responses on the part of the parents.

Dissociative-Demanding Reaction of the Parents. Perhaps the clearest impression that the psychiatrists brought back from their initial trip to Vicksburg was their hunch that much of the child's later behavior around the topic of the tornado was almost wholly parent-determined. They felt that the way in which the parent handled the child with regard to the entire matter of the tornado was important in influencing the child's own handling of the experience. Although this impression was strong, and although we

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10. Fisher's exact test indicated a probability considerably greater than .01.

have developed some further ideas about this impression--which will be presented later on--we were unable to formulate an hypothesis in this area that would be testable with our data.[11] The closest approximation to this question of parental handling we could draw up has to do with the child's experience of the parent's immediate reaction to the tornado at the time of the storm's impact.

The central significance of the parents' immediate reaction--whatever behavior they evidence--is its meaning for the child in terms of offering him a ready-made structure or perception of the events the child and the parents are experiencing. In ordinary day-to-day life, the child takes from the parents' behavior the cues as to how he himself should behave with them. The situation is no different in a time of stress or trauma. Also in ordinary day-to-day affairs the child's relationship to his parents is fundamentally a dependent one. In a trying situation, the child will tend to cast the parent into a supportive role, and the parent will tend to accept this role, thereby defining the child's role as a dependent person. In a disaster then, the parent's immediate reaction should, in terms of his own and his child's role expectations, be supportive of the child. There is the ordinary expectation in both child and adult that the relationship of the preceding past is carried over into the immediate present. But, of course, this does not necessarily work out in the extra-ordinary situation of a sudden natural disaster.

We have been impressed, however, that the immediate reaction of the parent, at the time of the disaster and in the presence of the child, may be a clue to the parent-child relationship as it existed prior to the tornado. There is a popular saying that crisis brings out the true nature of a person. In a sense, that is what we mean here, except that the "true" nature of the parent-child relationship would be accessible to view without a crisis to point it up--the opposite of the implication of the popular saying. In short, then, the parent's immediate reaction vis-a-vis

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11. This was, for the investigators, the most disappointing and frustrating problem in the study. It appeared that none of our formulations in this area could be cast in terms of the manifest content of the interview protocols, and this perhaps was a clue to the fact that the exact behavioral elements of generally adequate and inadequate parental handling are not too clearly or easily understood.

the child is a shorthand way of describing that child's relationship with that person.

If the immediate response of the parent was such as to offer support to the child, this response seemed, from what other information we had on their relationship, to postdict and predict a fairly reliable, supportive parent on whom the child could place his confidence. If, on the other hand, the parent's response was a hysterical demand for help from all and sundry within hearing distance, for example, then the child-parent relationship was seen to be reliably unreliable in day-to-day affairs. For example, one mother in our study went completely to pieces during the tornado; although she was in no actual danger, she wept and fainted alternately and paid no attention to the whereabouts or condition of her children who were with her, shopping in a store. This mother, it appeared from other information, had all along more or less abdicated her role as a supportive parent in favor of being an off-and-on invalid with various chronic nervous complaints. An example of the reverse situation was the mother who gathered her children around her on the living room sofa, cuddling them and reassuring them when the roof to their home blew off. The mother was equally resourceful in day-to-day affairs, managing her household with much acumen while her husband was away in the Army.

These considerations led us to try to distinguish types of immediate parental responses. In the end, however, we were able to distinguish reliably only one particular type of response which we then contrasted with all other responses. This response we have called the dissociative-demanding reaction. The parent's behavior in this reaction was demanding in that it strongly expressed a preemptory request for help from the environment; in some cases the request was specifically directed towards the child. The demand for help was actually verbalized, or it was implied in the dissociative behavior which also characterized this response pattern. The dissociative aspect of the response we defined as the parent exhibiting the following types of behavior: fainting, disorganized motor behavior ("I went into hysterics"), fugue states, and so forth. In all of these types of behavior we hypothesized that the parent contributed to some part of the child's perception of disaster. The parent's reaction was also disastrous--to the child's way of thinking. We concluded that this part of the child's experience was an integral part of the tornado complex, and thus we considered it as an involvement event.

We hypothesized that this response on the part of the parent reversed the usual parent-child roles: It was the parent who demanded attention and support from the child and the child who had to look after his parent. Whereas such role reversal might not be traumatic under other conditions, we felt that it would likely be a clue to the presence of emotional disturbance for the child when it occurred under the conditions of the tornado's impact. Nine children with such experiences appeared in our sample. Eight of these accounted for about one-sixth of the total of disturbed children; the other child was not disturbed. (This child, incidentally, was the one mentioned before whose mother seemed to avoid talking about her.) By Fisher's exact test ($P \gg .01$), a significant statistical association seemed to exist between the children's experience of a parental dissociative-demanding response and later emotional disturbance.

The fact that some parents reported behavior that we have labelled as dissociative-demanding does not necessarily mean that all parents who acted in a dissociative-demanding fashion reported such behavior. Only spontaneous reports were elicited in our study of this behavior, and, in the absence of direct or indirect questions about it, respondents may have withheld such information. The spontaneous reports may self-determine a sample of all persons exhibiting dissociative-demanding behavior that is significantly different from the total number. Therefore, a sample obtained through direct questioning may actually have a different composition in terms of the emotional status of the respondents' children. Would there then be a relationship between the children's emotional disturbance and the presence of dissociative-demanding behavior on the part of the parent at time of impact?

A consideration which is involved in assessing the meaning of this finding is the relationship such behavior has to the general personality of the parent-respondent. We are inclined to see dissociative-demanding behavior as poorly adapted to the disaster situation. Is it then a clue to a general pattern of maladaptation? This question we will treat in the next section.

FAMILY RELATIONSHIPS AND THE DISASTER EXPERIENCE

Leaving the matter of involvement events, we turn to a discussion of (1) the relation of some family characteristics to the child's emotional disturbance, and (2) the patterns of family relationships in respect to the post-disaster situation.

Parental Psychopathology. A family characteristic which we were able to extract from the protocols--although we had not planned on doing so--was the presence or absence of a reported history of some sort of psychopathology in one or both parents. Psychopathology was defined as reported when the respondent specifically mentioned that he or the other parent had some chronic psychiatric or psychosomatic symptom (for example, "nervous indigestion" or "nerves"), had had a nervous breakdown, or had a chronic poor relationship with some member of the family. Of course, there was no doubt that such symptoms or history might apply in all respects to more than those who reported such symptoms or history. This does not affect, however, the significant association which was found ($P > .01$) between the parents' report of psychopathology and ratings of their children as emotionally disturbed. What is at stake, of course, in interpreting this finding is whether or not the children were emotionally disturbed before the tornado--a question which our data does not allow us to answer.

To get some idea of the relationship of the parent's impact behavior to his basic personality, we checked the dissociative-demanding response against the presence of (pre-existing) psychopathology in the parents. The hypothesis that the maladaptive disaster behavior is related to a general (previous) pattern of maladaptive behavior--a pattern signalled by evidences of pathology --was not amenable to statistical test because of a shortage of cases, but simple inspection seems to indicate a relationship, for none of the eight dissociative-demanding parents was classified as without previous psychopathology.[12] On the other hand, parents whose immediate reaction to the tornado impact was not dissociative-demanding were divided about equally between the categories of psychopathology and no psychopathology. Thus, one would be led to say that the dissociative-demanding parents do tend to be characterized by previous psychopathology, but a paychopathologi-

12. The use of Fisher's exact test was precluded by the fact that there were no cases that fell into this cell.

cal history does not mean that a parent will act dissociatively and demandingly in a period of crisis. Both of these interpretations seem rather commonsensical.

The Family as a Unit and the Appropriation of Roles. For various reasons, our investigation used the individual child as the focus of attention, with whatever else was important in the situation being related to this individual child in some way. It now seems to us that a more meaningful conceptualization might have focused on the family as a relatively discrete system, within which each child could be conceptualized as an inseparable part. We might have better understood some of what was going on with our subjects if we had thought of them in terms of their performing certain functions within a more-or-less autonomous whole--the individual family system. For example, in families with more than one child, it often seemed as if one of the children had appropriated a certain role, and because he had, it meant that there was no more room within the family for someone else to perform the same kind of role. In other words, there was a certain amount of dynamic space, and no two family members could very well occupy the same point in that space. This feeling that we had was supported by, among other things, the number of cases in which the parent-respondent appeared to talk only about one of the children in the family, in spite of an interviewer's attempt to get information on other children. This seems to be particularly true in large families.

From the standpoint of the assessment of emotional disturbance, the concept of the appropriation of roles (if, of course, it has an actual empirical referent) may present some difficulties. If there is only enough room within the family for one child to be overtly disturbed, within the recognition of the family, it may be that more than one child would appear to an outside observer as disturbed, but that the parent-respondent would be unable to see and report symptoms for the other children. Thus, one's source of information--the parent--would have definite limitations. On the other hand, it may be that in many instances the overt disturbance does not actually show itself, at least within the family--or it may not truly develop--unless or until the family psychic economy permits it when, for example, the child who was earlier seen by the parents as disturbed has recovered, thereby freeing the role for someone else to take it. (Carey-Trefzger seems to have noted this same problem in her study of English children

during World War II.[13]) Also, there may be variations upon this theme. For example, in one Vicksburg family, the family economy apparently permitted the children and the father to show upset and be disturbed but the mother was, quite literally, not allowed to do so. Yet, in individual interviews, it was very apparent that this mother was in great need to express her distress about some truly shocking experiences she had undergone in the tornado. At one point in an interview, she wept and the sound of her weeping brought the father running from another room to urge his wife to pull herself together and stop crying.

In summary, instead of studying individual responses to the disaster experience it may make more sense, for some purposes, to study the pattern of responses within a family. This whole problem of the family versus the individual member has been central to much social work and much child psychology. It may be especially fruitful to investigate the problem in terms of the family crisis that is brought on by disaster. For the study of family patterns, the disaster may serve as a natural experiment.

Denial and Suppression in Family Communication. As was mentioned previously, perhaps the clearest impression brought back from the experience of the initial visit to Vicksburg was the hunch that much of the child's behavior with respect to the whole disaster experience was heavily influenced by the parents' attitudes. The central observation which occasioned this impression was the manner in which people dealt with recollections of the disaster. It appeared that a very common mechanism of defense involved denying or attempting to suppress a recollection of the experience.

Most of the parents felt that one should try to forget about the experience as quickly as possible, and the general attitude was that it was best not to talk to the children about the experience since this would only upset them more. As one mother put it:

"We tried to avoid talking about it."

Interviewer: "To avoid talking?"

Mother: "Yes, but everytime anybody came in, I would hush-hush. I'm good about keeping the children busy so that they

13. Op. cit.

don't listen. We couldn't listen to the radio until Tuesday. We tried not to let them hear anything we said about it.

Another mother put it: "I just discourage any talk about the tornado. I tell him not to worry, it's all over. And we're just so thankful we weren't in the theater." Still another parent's reaction is shown in the following extract:

Interviewer: Did Jimmie talk much about it?

Mother: He talked constantly about it until he got his mind settled.

Interviewer: How did you feel about all the talk?

Mother: It made me nervous. I tried to turn the conversation, and tried to keep him from people who would talk about it.

Interviewer: What do you think is the best way to deal with such a problem?

Mother: I would say, "Just forget it, son" --and put him to play or send him on an errand.

Another mother said, "I hate to hear her talking about; I hate to think about it myself." And she went on to say that she and her husband "don't encourage her /their child who was in the theater/ to express herself. I believe it will make her feel worse to express herself."

Many people had difficulty in answering the questions children would ask about the disaster, especially when the question dealt with the death of other children or people who were close to the children. In actuality this seemed to be a general community phenomenon as evidenced in newspaper articles which told about children who had asked about their friends or siblings who were killed in the theater. These newspaper stories conclude with remarks to the effect that no one could bring himself to tell the children what had happened, or else the stories recognized that individuals had lied to the children in attempting to make the experience seem less frightening. Most people felt that it was best to get the children back into the kinds of activities that they had been doing as quickly as possible, but without acknowledging that anything had really happened. This was done at one of the high schools and there were reports that the students

resented the fact that no mention was made of one of their classmates who was killed.

It was obvious that many parents had difficulty in accepting the reality of the experience themselves. Undoubtedly they became so anxious in recalling it that the only way they felt they could deal with this anxiety was by a process of suppression, or else by attempting to deny that the experience was really as bad as it actually was. For this reason it was difficult for them to tolerate hearing their own children discuss their experiences. Since parents communicated, in this way, that one could not openly discuss the experience, the disaster was made even more frightening for the children.

One way of understanding some of the problems a family might experience after the disaster is in terms of the communication process within that family. Parents may have much difficulty handling their own feelings about the experience, and their own adjustment to it may be in a state of tenuous equilibrium; in such a case they may tend to overlook or suppress their children's anxieties and questioning about the experience, in order to maintain their own adjustment. Thus the communication process around the family's disaster experience is blocked. If, on the other hand, the parents became freer in dealing with the experience, recognizing the great relief in being able to discuss the experiince openly and frankly, the whole communication process in the family was facilitated. Once the material lost some of its overwhelming anxiety for the parents, they could begin to work it through and deal with it realistically. Then it became easier for them to tolerate the kinds of questions children asked, and the anxieties the children faced. Thus, the child too could participate in the entire family's reintegration, communicating openly with his parents about his own feelings, fears, apprehensions, questions, and uncertainties about the experience. Thus the family attitude shifts from one of trying to forget about the experience to one of learning to live with it.

Our initial interviews in Vicksburg led us to emphasize in our own thinking the usefulness of facilitating communication in the family around the subject of the disaster. In our examination of later interview material, however, we have felt that a qualification of this point of view is necessary. It has seemed to us that the important thing for the child was not merely full communication, but rather the development of a consistent attitudinal framework in the family for the discussion of the disaster experience. That is, the parents' consistency in finding a

position that was comfortable for themselves made it possible for the children to feel comfortable in talking about the experience at least as far as the parents indicated they were comfortable in hearing about it. What might become more upsetting for the child was a shifting attitude and anxious vascillation on the part of parents about communicating about the disaster. The child might then suffer more from an uncertainty about where the limits could be drawn about his questioning and talking. It became increasingly more useful for us to think in terms of the parents' consistency about talking as the more important variable, rather than suppressiveness versus non-suppressiveness.

Parental Attitudes Towards the Child's Symptoms. The symbiosis of parent-child interactions around the tornado experience can be seen in the parents' attitudes towards the child's reaction to the experience over time. Thus, while one of the common types of child reactions was an increase in dependency behavior--for example, the tendency to cling to the parent, as we have already described--many parents would encourage this behavior. There was a tendency on the part of many parents to want to hold on to the children, to keep them closer to home, and to tighten the relationships within the family. Some parents tended to be overprotective and keep the children closer to home after the child's need to be closer to the parents no longer existed. These parents appeared to have difficulty in distinguishing their own needs to keep the children close to them from the needs for regressive patterns which the children expressed. Said one parent: "I didn't leave him [12-year-old son]; he wouldn't let me. I never really made a practice of leaving him. I didn't think I should leave him [in the days after the tornado]." A father said: "It [the tornado] made us realize we could have them snatched away. There is always one of us with the children." A mother said of her children:

> After the tornado, I didn't punish them for anything. I let them get by with everything. It took me a couple days to get to be able to punish them again. For two weeks, I didn't punish them at all. But they were nice; I had very little trouble straightening them out again.

Still another mother said:

> I'm better now, but for three weeks, I could hardly stand to have Annie [a 9-year-old daughter] out of my sight. It was terrible at first; I just couldn't bear it. I was so

apprehensive. I guess I was still in a state of shock. I could hardly wait to see her get off the bus. I'm much better. I've thrown it off pretty well.

The regression of the child to some previous level of development posed the problem for the parents of how to handle it. For example, should they insist that the child sleep in his own bed instead of letting him come to sleep with them when he asked to?

The manner in which the parent dealt with the post-disaster symptoms of regression seemed to be related to (1) the general parent-child relationship before the disaster and (2) the immediate reaction of the parent to the disaster. A general attitude of acceptingness of the post-disaster disturbance seemed to mark those parents whose impact-time response was most supportive and appropriate vis-a-vis their children. Such acceptingness was quite different from the encouragement of dependency which was more marked in those parents whose immediate reaction was a dissociative-demanding one.

A further aspect of the problem of how to deal with the child's disaster symptoms is the attitude which the parent had towards the length of time such symptoms ought to be tolerated. Most parents wondered how long it would take their children to recover from the experience. An optimistic and unhurried frame of mind seems to characterize parents whose immediate reaction to the tornado had been appropriate and supportive. These parents were not afraid that the symptoms would continue. They reasoned that the child would, in good time, get back to the point of not wetting the bed, or of feeding himself, and so on, and thus recover skills which he had only temporarily sloughed off in the immediate post-tornado period. The parent who, on the one hand, was concerned about spoiling the child and yet, on the other hand, encouraged the child's regression was less apt to have acted appropriately at the time the tornado hit.

Recognition of the increased needs of the child after the disaster was a more serious problem for the parent especially if he and his family had come out of the experience relatively unscathed. The parent recognized that his children might have added need for him, but he was apt to be also aware that the community and his neighbors were in need also. Which set of needs was he to respond to? It is not a pseudo-problem, for when a disaster hits a community, an important part of the recovery of the community is due to the voluntary and unorganized efforts of

local citizens who immediately pitch in to help out their fellow citizens. Over time local efforts, organized and structured with the advent of outside help, continue to be important. People generally accept this as true, and there is a great deal of social and internalized pressure upon the individual to engage in the recovery work. This pressure runs into the counter-pressure of loyalty to one's own family. The conflict between fulfilling family needs and fulfilling community needs may occur at or shortly after the disaster impact and it may continue for many days thereafter. What happens immediately after a disaster, in terms of an individual's first concern, has been studied by others-- for example, Killian.[14] As to the later period, the Vicksburg experience indicates that the conflict continues to be real for some time even after a person has assured himself that his family is safe. This is particularly true of the parent who recognizes that although his children are safe, they are nevertheless needful in terms of continued reassurance and comforting over a period of days. For these parents the question of whether to stay with their children, offering the reassurance of the parents' presence in the household, or whether to work, for instance, at one of the aid stations, was a troublesome one.

14. Lewis M. Killian, "The Significance of Multiple-Group Membership in Disaster," Amer. J. Sociol. (1952) 57: 309-314. Reprinted in D. Cartwright and A. Zander (eds.), Group Dynamics: Research and Theory; Row, Peterson Co., Evanston (Ill.), 1953; Chapter 18.

SOME CHILD CHARACTERISTICS AND THEIR RELATION TO SUBSEQUENT BEHAVIOR

Turning from the area of family relationships, we focus our attention on the individual child and his characteristics and extra-familial relationships.

Sex and Age. We found no relationship between the sex of the child and later emotional disturbance. Fifty percent of the disturbed children were males; fifty percent were females. Of the undisturbed children 57 percent were males; 43 percent were females. We did not observe any outstanding differences in terms of general post-disaster behavior on the part of the boys as compared to the girls.

The only significant and testable age differential in terms of disturbance was that between school children (ages 6 to 12) and pre-school children (less than 6 years of age). School age children seemed more apt to be disturbed than pre-school children ($P > .05$). It is interesting to note that no pre-school child was rated as severely disturbed. Carey-Trefzger[15] believes that the older child in her studies was more impressed with the visual experiences he went through; and this was closer to the adult response than the response of the younger child who was impressed only by some immediate impact upon himself. This would tend to fit in with our finding that the younger (pre-school) children as a whole were not as disturbed by the tornado as the elementary school children.

Many observers have noted the tendency of adolescents to take on adult roles in the rescue and rehabilitation phases of the disaster. We were told the same thing in Vicksburg. Similarly, we felt that the older children were more inclined to respond to events as a group. That is, they initiated and planned disaster recovery measures as a group, consulting among themselves about what to do. The younger children were more inclined to act individually. For example, we knew that in a class of elementary school children where there was some reminder by a teacher of a classmate who had

15. Op. cit.

been killed, the class did not react to it as a whole, although individual children reported on it to their families. But in a high school a class, as a group, reacted vigorously to a similar action by their teacher, complaining directly to him about it. Our information on the group feeling of older children as opposed to more individual responses on the part of younger children is not at all adequate, but our general impressions are that there are significant differences.

School and Peer Relationships. Our impression that peer relationships were an important factor in ameliorating the child's emotional disturbance after the tornado attains some support in the fact that in the field of child psychology many observers have pointed out the importance of peer relationships as a corrective force in a child's development. The maturation of a capacity for an intimate and close relationship, such students believe, occurs somewhere around the age of ten, in the culture of the United States. This capacity is first seen in the chum relationship which at that age a child may set up with another child of the same sex and age group. In this relationship the child experiences a close sharing of feelings and life events and a mutual growth of esteem between him and his chum. Because of the closeness of the relationship, certain ideas or topics can be discussed, which he finds no opportunity to examine with others in his world. For example, the strange activities of parents and other adults are compared and discussed by the child and his chum, and what might otherwise remain large areas of anxiety-laden and dissociated experiences are brought out into the open and seen in the new light of another's comments. In this manner then the child gets an extremely important opportunity to correct in a basic way the idiosyncratic perceptions and resultant behavior that have been determined by his own family experience.

Although the Vicksburg investigations did not try to obtain data within this framework, still it appeared to us from the chance observations made by the parents that in certain instances this chum relationship was an important factor in the child's integration of the disaster experience. That is, when parents and other adults tended to suppress or selectively inattend various aspects of the experience, the child might often find a way to examine these through discussions with his best friend. Two or three cases of this type were noted in the Vicksburg materials. Also, there were many mentions by parents of improvement in their children's disturbances following the resumption of school. How-

ever, the resumption of school after a disaster may be reassuring to a child simply because it is the recurrence of a familiar and well-defined activity, and not because at school he found his friends to talk to. Our best estimates were that the teachers, in general, were more accepting of the children's needs to examine their tornado experiences than were the parents. Perhaps the teacher can accept more talk because she can interpose a professional distance between herself and the child's problem. Thus going back to school seems to provide the children with three kinds of opportunities to readjust: (1) an atmosphere of adult attitudes favorable to the airing of tornado experiences; (2) a familiar, highly structured setting; and (3) peers with whom experiences could be shared on a meaningful level.

To isolate these three factors which may have operated to bring about the improvement observed by some Vicksburg parents, after school started again, is probably rather difficult. But, assuming that factors (1) and (2) were randomized, an investigator could get a measure of (3) by the use of sociometric techniques. A socio-gram of children in each class in a school would single out the close two-groups within the appropriate age levels. And the members of these groups could be matched for involvement events (and other pertinent variables) with other children who did not enjoy an intimacy with one specific other child. A comparison of the emotional disturbance of these matched children would reveal any correlation between emotional disturbance and the type of peer relationships. Of course, such an association, if established, would not tell us whether or not the chum relationships helped overcome the stress of a disaster, for the presence of such relationships might also mean that the children concerned were previously better adjusted. Previous adjustment as a variable would have to be controlled in order to arrive at a real conclusion on this matter.

The Role of Religion. We did not get any important data on the child's relations with adults outside of school and family. One might suppose that there would be a number of instances where extra-familial influences were important in the child's experience of the disaster and his later integration of the experience. The closest thing to this sort of phenomenon that we drew from the Vicksburg data was the role that religion played in the child's handling of the experience. Here, most of the religious aspects of the child's integration process were actually experienced within the family situation. Family prayer was frequently used by the parents as a source of comfort for themselves and as a means

for comforting the children. The role of religious concepts in establishing some meaning of the disaster--an experience which requires some structuring of one's concepts of life and death--seemed to be important. Religious leaders in the community performed a function for many parents and children by structuring the experience of the disaster into meaningful, religious terms, according to the various basic formulations of the different churches.

Some parents felt that one of the positive aspects which grew out of the tragedy was an increase in the meaningfulness of religious and ethical concepts. That is, they felt that they were now able, with greater meaning, to impress upon their children certain religious attitudes. Some reported less expression of sibling rivalry among their children, and increased feelings of guilt which the children expressed in religious terms. At one of the high schools, the children were reported to have expressed the feeling that they didn't deserve to celebrate Christmas and insisted that their gifts be given to those who had been more involved in the disaster than they had been. There were implied references to feelings of guilt for having survived the experience; and one of the ways of dealing with these feelings appeared to have been through a reinforcement of religious beliefs.

TWO RESEARCH IMPLICATIONS OF HUMAN EMOTION IN DISASTER

Like any crisis, disaster stirs the feelings of those who have experienced it directly, as victims, or indirectly, as researchers. Our experience in the Vicksburg study suggests two implications of this fact for disaster research which we will discuss in this section of our report. The one concerns the possible interference to effective research of anxiety about death. The other concerns the extraordinarily undefensive, frank, and friendly feelings which disaster victims seem to experience once the crisis is over, and the opportunity for rapport that this provides for research on emotionally-charged topics.

Anxiety about Death. Studying disasters means studying situations which involve the event of death. Feelings, attitudes, and emotions about death will be aspects of any disaster situation and are, therefore, a suitable subject for study. But what may make such feelings about death important for the field of disaster research is not merely the fact that the disaster victims will experience anxiety about death; there is also the likelihood that the disaster researchers themselves will experience some such feelings.[16] In fact, it would be almost impossible for disaster researchers to avoid the experience of such anxiety, because, in the United States (at least) anxiety seems to be institutionalized around the events of death. That is, the subject of death for most members of the society is anxiety-provoking.

One of the most obvious ways in which anxiety about death appears in the American culture is in the verbal expressions which are used by Americans to talk about it. For example, instead of referring to the fact of death by saying in just so many words that someone has died, the expression of the fact is often indirect, in terms of "He has passed away," or "She has gone to her reward," and so on. The allusive, elliptical, or euphemistic formulation serves to cloud, confuse, or gloss over the fact of death or, in some cases, even to place a favorable significance on

16. Lewis M. Killian discusses this and related questions in his "Introduction to Methodological Problems of Field Studies in Disaster," to be published by the Committee on Disaster Studies.

something which is actually generally recognized as unfavorable or unpleasant: "She has gone to her reward."[17]

Indirection in communication--like that of American language customs about death--is one of the more useful clues to the presence of anxiety.[18] We found this same indirection in our interview protocols. One of the more important facts which had to be ascertained for all of our cases was whether or not the child had had any experience with death of family members or friends in the disaster. In coding the interviews we noted that very often the reports were rather vague on this subject--even though it was sometimes obvious that the interviewer had actually obtained the necessary data. That is, the words used in the interview reports to communicate the fact of the death of a child's friend or family member were such that often it was difficult to tell (a) whether or not someone had actually died; or (b) if a death event was clearly reported, who was the person who had died.

It appeared possible to characterize dichotomously the way of reporting these deaths as either direct or indirect. Of course, it was the indirection in the reporting which made it hard to tell what the facts were. Examples of direct reporting are the following: "A little girl who is a sister of a boy in his room got killed"; ". . . parents suffering so from the loss of their children"; ". . . went to Sharon Boyle's funeral . . ." Examples of indirection are the following: ". . . a little girl in John's room at school who was trapped in the picture show"; "I told her all about it"; ". . . never mentioned any of the children hurt in his room"; ". . . knew children in the theater . . ."; ". . . children in the tornado . . ."; "Edwin was in the same room with the Carling child but he did not know him too well." (In this last example, "Carling child" may refer to a child who was killed or others in the same family who were not killed but injured.) Another frequently-used elliptical term was "involved." "Involved" in the tornado might mean, in the protocols, killed, injured, or, sometimes, having been in a building that was damaged by the storm.

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17. This phenomenon in American life has been commented on in Evelyn Waugh's satire, The Loved One; Little, Brown, and Co., Boston, 1948.

18. See Harry Stack Sullivan, The Interpersonal Theory of Psychiatry (Helen S. Perry and Mary L. Gawel, editors); Norton, New York, 1953. See also, Jurgen Reusch and Gregory Bateson, Communication: The Social Matrix of Psychiatry; Norton, New York, 1951.

It is hard to distinguish whether the indirection in the reports derives from our instructions to the interviewers, or from the interviewers' handling of the data, or from the respondents' way of reporting the facts to them. Very likely all three communications were responsible for the indirection that served to eclipse necessary data.

It is evident then that anxiety might indeed be a significant handicap to disaster research. There is a long chain of communication acts upon which the effectiveness of disaster research will depend--from the disaster victims themselves, through the researchers, to the scientific community and to administrative personnel in disaster agencies and on to the public at large. If this chain of communication is likely to be interfered with at every juncture by our common anxiety about death, then this is a problem which deserves considerable attention.

Rapport in the Post-Disaster Period. Many observers have commented on the increased intimacy and solidarity which characterizes populations in the post-disaster period. There seems to be a general reaching-out to others and a readiness to share one's resources and experiences that lasts for a considerable period of time immediately after a disaster.[19] We have found it helpful to think about this process of reaching out as being in part a means of reassurance after the crisis is over. It seems to be a way of achieving a sort of talismanic protection which comes from figuratively (and literally) touching one's fellows.

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19. For a discussion of the sense of social solidarity, see National Opinion Research Center Report No. 52, "Human Reactions in Disaster Situations," June 1954. After some weeks have elapsed following a disaster, there frequently appears to be a counter-reaction, a kind of hostile snapback which reestablishes an earlier, more distance-setting situation between the self and others. For a discussion of the hostility in the late post-disaster period, see Fred R. Crawford and Harry Estill Moore, Waco-San Angelo Disaster Study: First Annual Report (Austin: University of Texas, mimeographed, 1954). "Toward A Theory of Disasters." See also, Studies in the Holland Flood Disaster; Instituut Voor Sociaal Onderzoek Van Het Nederlandse Volk, Amsterdam, and Committee on Disaster Studies, Washington, D. C., 1955; see esp. Chapter 3, Volume III.

We experienced this phenomenon in the Vicksburg project in the readiness of respondents to discuss such things as pre-disaster emotional symptomatology in themselves and their children. Such material is not generally easily accessible to inquisitive strangers. Yet the Vicksburg residents seemed on the whole to be extremely cooperative in discussing relatively private matters. We would not want to give the impression that this was simply due to the common reaction of openness, solidarity, and friendliness which characterizes the post-disaster population. An additional element in the rapport which our interviewers experienced in their relations with the respondents was the sort of interviewing that was done. Three of the interviewers were Mississippi social workers; thus they were indigenous to the area and could speak the language of the interviewees. Moreover, the previous orientation of these workers was in terms of service; their profession involved (a) the recognition of their clients' needs and (b) attempts to help meet those needs. In short, the social workers brought to research situation an interest in the interviewees as people who had problems. And thus we feel the respondents were able to discuss with confidence matters which might be withheld from other sorts of interviewers. The fourth interviewer, while not a social worker, had had considerable experience both in a clinical setting and in disaster research which made for an equally appropriate sensitivity to respondents' feelings. Thus, all our interviewers were particularly qualified for exploring sensitive areas of living. We feel that this made it easier for the respondents to talk about emotionally-laden material.

Further, it may be true that people are more ready to talk about such things as parent-child difficulties, psychological symptoms, and family problems when these are discussed in interviews initiated on the rationale of doing research on disaster responses; the respondent may also find it easier to cooperate because he knows he is contributing to the scientific understanding of the unusual kinds of experiences he has gone through. Yet, even with the kind of encouragement for cooperation that is afforded by good interviewing and by the satisfactions inherent in participating in research, it is not likely that we would have gotten the same cooperation from a non-disaster population. (There were in Vicksburg, after all, certain resistances to the research, which we have already discussed.)

It is our impression that one implication of the emotional reaction to disaster is that the common sense of human solidarity which follows a disaster experience can operate to further research in the intimate psychological bases of behavior. This leads us to

suggest that disaster research per se can provide, under proper conditions, an entry to the study of psychological subjects not immediately related to disaster behavior. For example, one of the most difficult problems which confronts the public health study of mental illness and health is the assessment of some sort of baseline of mental health within a community or society. We feel that it would be easier to obtain the sort of cross-section of population necessary for answering research questions about such a baseline if a public mental health study were coupled with a study of a community disaster. That is, respondents in a disaster-struck community will tend to be more amenable to research interest in the intimate matters of emotional well-being and emotional difficulties that are a part of their total life situation, and the opportunity provided by this post-disaster accessibility should be utilized for public health studies.

PROVISIONAL RECOMMENDATIONS ON THE HANDLING OF CHILDREN IN THE POST-DISASTER PERIOD

One of the objects of this study has been to provide a basis on which to make some suggestions about how to handle children after a disaster experience--with particular reference to minimizing the emotionally traumatic effects of the experience. In this section of our report we will present some recommendations which we hope will have some provisional usefulness until further investigations can provide better answers. We emphasize that these suggestions are offered most tentatively.

It might be said that public health recommendations fall into three categories, according to the degree of difficulty that inheres in determining their applicability. The first category--that of least difficulty--concerns those recommendations for which there are relatively no problems in determining when and how they should be applied. These are the recommendations that public health authorities can authoritatively recommend, together with a rather complete and clear definition of the situations in which the recommendations will be applicable. An example of this sort of recommendation is one that may be used after a flood: During the next ten days, drink only boiled or bottled water. No one can have any difficulty understanding such a rule and applying it.

The second category includes recommendations which require somewhat more complicated operations by the individual in order for him to determine the applicability of the rule. In other words, the individual must do a bit more thinking in order to see whether and how he should act on the recommendation. An example of this sort of public recommendation is that one should walk, not run, to the nearest exit in case of fire during a public gathering. There is considerably more involved in defining a situation as a case of fire (or potential fire) in a public building, so that one should act on the rule, than there is in defining what is a safe supply of water, when one has been informed that only boiled or bottled water is safe. Moreover, there may be situations of fire in a theater, for instance, in which one would be better advised <u>not</u> to walk, but to run--when, for example, at a late-late show when the audience is small and the exits uncrowded.

There is a third group of recommendations which can be made

but which require so many complicated operations to determine their applicability that the individual must usually seek expert assistance. Such recommendations are generally directed to the expert rather than the person who would be the actual object of the recommendation. These recommendations are best exemplified in the mental health field. It is almost impossible to think of a public health recommendation in the area of mental health that would not fit in this category. For example, a city's public health department can not merely adjure the parent to love his child, or to eschew anxiety, or to be calm and supportive in time of crisis, and so forth. Such recommendations would not be understandable or applicable by the individual parent without some kind of expert, individual assistance from a psychiatrist, or a social worker, or the like. And yet there is much involved in psychiatry--in public mental health--which can be put to good use, so long as such expert assistance is available.

We would like to discuss our recommendations in terms of these three categories, as a sort of orienting framework.

Category I. There are two recommendations which have seemed to us to be suggested by the Vicksburg experience, and which are susceptible to rather simple application by those who would carry them out. We will state them, together with some of the reasons why we feel they would be useful.

1. For mothers of younger-than-adolescent children, staying at home with their children is as important as Red Cross or other rehabilitation work in the post-disaster period. Public encouragement for stay-at-home mothers should take the form of stressing the community value of the mother who stays home with her children.

Public attention to this suggestion to mothers would serve the purposes of (1) allaying any guilt feelings that a stay-at-home mother might feel about not doing her part to rehabilitate the community and (2) meeting the increased dependency needs of younger children who seem to require, as we see it, closer contact with their parents after a disaster.[20]

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20. From our own experience and from the reports of others, it would seem that adolescents are not so much in need of increased contact with parents as they are to take on more adult roles. See, for example, William H. Form, et al., Final Report on the Flint-Beecher Tornado, Michigan State College, Lansing; mimeographed, 1954.

As has been noted previously, parents are apt to experience some conflict about whether to meet their family needs or whether to do something for neighbors and strangers who have suffered from the disaster. We feel that it is misplaced loyalty to the community, if the mother goes off to make bandages, for example, rather than make herself available to her children during the immediate post-disaster weeks. Under ordinary circumstances children from about the age of seven on are usually quite able to play with their peers for hours at a time without any contact with mother, and perhaps with little or no contact with or supervision by the parents of their playmates. Yet for some time after a disaster parents should not expect that the child will be as self-reliant. Further, the mother who can and does make herself available throughout the day--so that the child can touch home base, so to speak--ought to receive public, community support for doing so, in order that she can more easily handle the internal and external pressures towards doing something about the more obvious needs for soup-lines and so on.

It seems to us that this recommendation is also, in actuality, a sort of derivative from a great deal of experience and tradition in the study of children in crisis situations. It is, in a way, simply a derived conclusion from what has been learned about the placement of children in foster care during war-time. That is, mental health workers now believe, from the British experience in World War II, that the separation of the child from its home environment, no matter how threatened by buzz-bombs, is probably worse for him than leaving him in the care of his family in a danger area, especially when insufficient attention can be paid to foster home placement.[21]

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21. Thus after the 1953 floods in The Netherlands, Dutch government authorities refused to recommend the temporary placement of children alone in foster homes. See Barent F. Landstreet, "The Adjustment of the Individual in Disaster-Struck Communities," a paper delivered at the Georgia State Conference of Social Welfare, Savannah, Georgia, November 1953 (mimeographed). For the account of the British war experience, see R. M. Titmuss, Problems of Social Policy: History of the Second World War; H. M. Stationery Office, and Longmans, Green and Co., London, 1950. See also, D. T. Burlingham and A. Freud, Infants Without Families, op. cit.

2. In a school situation children can often make better use of expressive rather than intellectual activities during the first week after the disaster.

Whereas we consider that children in Vicksburg benefited from the resumption of the routine of going to school, there also seemed to be evidence, from reports of teachers and others, that school could not simply go on as usual. The individual teacher or school administrator must decide, of course, on the way in which the routine is to be relaxed; but most of the school personnel in our study agreed that the teacher's stressing of expressive activities provides the child with an increased opportunity to achieve a meaningful integration of the disaster experience through manipulation of materials, such as paint or clay, and through the medium of more or less impromptu stories, plays, or pageants. By underemphasizing intellectual activities--such as an arithmetic or English test--the teacher can avoid calling upon the child to prove himself and push himself at a time when his energies may be needfully directed towards the current resolution of the problems that grew out of his disaster experience.

Category II. The previous two recommendations are susceptible to being promulgated in clear practical language, and they are also fairly simple to put into practice. Two additional recommendations somewhat related to the two previous ones are, however, not so easily formulated or put into practice.

1. There is a need in the school situation for an acceptance of transient lower levels of achievement on the part of children; at the same time it is necessary to recognize the value to the child of maintaining ordinary school routine, which also provides support to the child. For example, although promptness rather than tardiness should still be the rule in school, teachers should be encouraged to be more accepting of lapses, on the part of themselves as well as the pupils.

Here again, the rationale for this recommendation is, simply, first things first. That is, after a disaster one's energies on a conscious and on an unconscious level are much in use in the service of somehow integrating the disaster experience. It is more important that one's energies be relatively free for this task than that one try to live up to all the workaday expectations that one is quite able to live up to in ordinary circumstances.

Some Vicksburg residents were concerned about spoiling the child if they did not demand that he act as usual. But simply

accepting the lower level of achievement which follows on disaster stress does not mean that the child will stay at that level. As a matter of fact, the process of returning to previous, higher levels of achievement in daily life takes place, we feel, pretty much on its own, needing very little encouragement. It does require the support of the adult's expectation that this will occur. If a child has not been encouraged in his regression to distractibility, to tardiness, to untidiness, to clinging, and so on--if the child is not infantilized, so to speak--he will tend to regain his previous skills in daily living in the school situation.

This recommendation might well be extended for the attention of parents as well as teachers. It has seemed to us that since family living takes in so many different sorts of activities and so many different sorts of situations, it is quite difficult to formulate such a recommendation in terms that would be useful on a broadscale basis for parents. The principle holds, it is true, but the application of it is very much a matter of interpretation.

2. For parents to insist that a child discuss his disaster experience with them or others, if the child says definitely that he does not want to, may increase the child's difficulty in integrating the experience. Much has been said loosely in psychology and psychiatry about the usefulness of talking things out, but talking under duress will not be helpful to any child.

This recommendation poses a good many problems in its application,[22] but if it is taken quite literally and not used as authority for something that seems similar but is actually quite different, we believe it may be helpful. That is, this recommendation should not be taken to mean, for example, that parents should not discuss the disaster with their children. Very simply what is meant by our recommendation here is that a child should clearly be permitted to talk about the disaster, but if he definitely refuses he should not be forced to talk. It may be true that his refusal to talk indicates that the experience has been exceedingly painful for him and that in order for him to get over it he will sometime have to discuss it with someone. Although there is un-

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22. In addition, the fact that this recommendation appears in Category II should not be taken to imply that we think the ill-effects of forcing children to talk are more widespread or pernicious than denying them the opportunity to talk--a matter discussed in a Category III recommendation.

doubtedly this need in children to have an opportunity for expression of feelings following an experience of this type, some children also need to gain some distance from the experience before being able to obtain any relief by re-examining the experience through talk with another person. It is indeed difficult for parents who have themselves experienced the stress of the disaster situation to gauge the pace the child wishes to set about talking. If the parent is concerned about the child's not talking about the experience, professional help is a better solution than requiring the child to talk.

Category III. In regard to our suggestions for parents which fall in this category, we will be addressing many of our remarks primarily to workers professionally concerned with child guidance and child psychiatry who will be concerned with interpretation to parents. What we will have to say will not be much different from what others have suggested.[23]

1. It can be helpful for relieving a child's anxiety about the experience for parents to answer their child's questions about the disaster and its effects in a frankly truthful manner, rather than to dodge the questions or make up fanciful answers. If the child is allowed to talk about the disaster it gives him a tool with which to make his experience less frightening and magical and more manageable and real.

The whole problem of talking with the children about the disaster was a difficult one for Vicksburg parents (and others), as we have noted before. Much of the difficulty was a function of the adults' own anxieties and discomfort about recognizing the frightening results of the tornado, yet the effort to avoid talking freely with the children in response to their questions was often cast in terms of the children's needs. It is not enough to simply adjure parents to answer questions, and it is not enough to tell them simply that children need frank answers. It is

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23. A sensitively-written pamphlet was prepared for parents in the Worcester, Massachusetts, area by Joseph Weinreb, a psychiatrist and director of the Worcester Youth Guidance Center. This pamphlet, entitled "Your Children and the Tornado," provides orienting information as well as suggestions for parents about handling after a disaster. See also, Emotional Stability Committee of the Metropolitan School Study Council, Let's Face It; Metropolitan School Study Council, New York, 1951.

necessary that parents have the opportunity to discuss the problem of talking with their children and to voice their own fears and anxieties. Thus it is obvious that this particular recommendation requires some professional interpretation and discussion. The point that needs to be made here is that dodging a child's questions and his desire to talk is not helpful; rather, it contributes to his confusion.

It should be made clear that parents also may have needs for gaining some distance from the experience before being able to respond freely to a child's demand for answers and discussion. Also, a child can, in the ordinary course of events, badger to death any topic of conversation. Whether it is why tree leaves are green, or why the storm killed Mrs. So-and-so, parents need to have the freedom to shut the conversation off at some point or get away from it sometime. Such considerations should qualify any direct demand that parents let their children talk about the disaster.

2. A more appropriate audience for a parent to use if he wishes to discuss his own anxieties about the disaster is, rather than his children, other adults.

Without the tools of experience, children are not able to handle satisfactorily the burden of parental expressions of fear and anxiety. Although we have noted that some Vicksburg children did rise to the challenge of taking on the supportive role to take care of their own parents' emotional disturbance, the costs of such a role assumption are very great, both for parents and for the children. Yet the parents' needs to express their feelings must be recognized; and neighbors, friends, and adult relations provide an opportunity for such expression. On the other hand, it probably would not be natural if the child did not at some time hear his parents discuss the disaster, or for him to ask them about how <u>they</u> were affected by it.

3. Group meetings, perhaps arranged under the auspices of local PTA's, could be held, for discussion of parents' problems in the post-disaster period. A psychiatrist, or a psychiatric social worker, or other child guidance worker would be an appropriate person to conduct such meetings.

Our experience with such group meetings leads us to recommend this procedure as the most expeditious means of providing professional interpretation and discussion of ways in which the parent

can adequately handle his children's problems and questions about the disaster. Such meetings provide the parents with an opportunity to discuss their own feelings and to get some perspective on their children's post-disaster behavior. In such meetings, the parents can get some understanding of the whole problem of dealing with children around the disaster experience: That children need frank answers to their questions; that parents should not expect the child to be an audience for their own expressions of fears and anxieties; that, on the other hand, it would not be natural if the child did not at some time hear his parents talking together or with other adults about the disaster; that children will regress towards lessened self-reliance; that this regression should be accepted, but not encouraged; that children will naturally tend to regain their previous levels of skill in three or four weeks after the disaster; that children who have had more frightening experiences may take longer to get over them; and that there are opportunities for professional help for worried parents.[24]

We feel that, in general, actual recommendations to the parents about how they should behave with their children ought to be minimal. It has seemed to us, both in terms of our Vicksburg experience and of our general clinical orientation, that it is more helpful to parents simply to apprise them of alternative ways of behaving. If parents have information about possible alternatives in handling their children, they will be able to make the decisions themselves more appropriately as to how they can best deal with their individual problems within the family. We can not emphasize too strongly that there is no practical, communicable set of recommendations which will be appropriate for all families to follow in order to solve all the problems in living which a disaster can cause.

The difficulty in formulating practical action recommendations for preventing emotional disturbance and increasing emotional stability after a disaster is a difficulty shared by psychiatry in general. Certainly some of this difficulty stems from our lack of knowledge about mental health and mental illness. It is not just that our available principles are linguistically abstruse and difficult of lay formulation; the principles, as psychiatric

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24. Such meetings can thus serve as a sort of diagnostic technique for determining the more difficult family situations which may require some follow-up attention.

theory, are in themselves shadowy and poorly understood. We do know, however, that it is not the specific techniques that a parent uses in dealing with his child's problems but rather the total parent-child relationship which influences the occurrence of emotional difficulties in the child. For this reason we must formulate our mental health recommendations in terms of rather simple, yet broadly flexible procedures and suggestions which aim more at the strengthening and supporting of the parent-child relationship than at the development of specific child-rearing techniques.

SUMMARY

The Vicksburg project was an initial attempt in American disaster research to concentrate on the subject of children's experiences and reactions to a natural disaster. There have been many reports of observations and studies made about children in wartime, both in America and elsewhere; but these were concerned with a somewhat different sort of traumatic situation than a disaster is commonly understood to be. War is a very diffuse, prolonged deprivation, and as such it is not experienced the same way as the deprivation which accompanies for instance, a natural disaster, an industrial explosion, or an epidemic. A few cases are reported in Soviet literature of children's reactions to earthquakes, but these are very short and sketchy accounts. In this rather unilluminating context the Vicksburg project was conceived and executed. An exploratory study needed to be done, not to explain the details of a child's experience of disaster, but to indicate what details ought to be studied in order to explain the child's experience.

The principal investigators first conducted a quick, four-day survey of the disaster situation in Vicksburg. And then two months later an extensive survey was made by distributing questionnaires to the parents of children in one of the public schools and by getting interviews with 91 parents on the basis of responses made on the questionnaires. Neither the questionnaires nor the interviews were designed with the primary object of getting precise quantifiable information. In effect, these techniques were simply another way to get qualitative, descriptive information. The extensiveness of the use of the questionnaires and interviews provided the investigators with kinds of information they could not get in their first visit, just as their first visit to Vicksburg provided information and insights which the extensive use of the interviews and questionnaires could not.

The first look-see resulted in the conclusion that a general suppressive atmosphere colored Vicksburg's way of dealing with its tornado experience. The suppressiveness took the form, in the case of handling the children, of denying to the children that something terrible had happened, of avoiding children's questions, of setting up tenuous adjustive mechanisms in the adult which were

continually threatened by the inquisitiveness or anxieties of the children. And the suppressiveness appeared to be a factor in whether or not the child was emotionally upset. The later interviews tended to qualify this impression somewhat. On the basis of the more extensive interviews it appeared that emotional upset was related more closely to whether or not the parent was consistent--in permissiveness or suppressiveness--in dealing with his own and with the child's communication about the tornado subject.

Several experience variables seemed to be highly related to whether or not the child was upset by the tornado: (1) Presence in the impact zone at the time of the tornado; (2) death or injury of family members; (3) personal injury to the child; (4) awareness of the tornado at the time that it happened; (5) dissociative-demanding reactions to the parent in his relationship to the child at or soon after the time of impact; all of these appeared to characterize the disturbed child as compared to the undisturbed child. Pre-existing symptoms of emotional disturbance in the parent was also related to emotional disturbance in the child. A difference in sex did not distinguish the disturbed child from the undisturbed child, but school-age children were more apt to be disturbed than pre-school children.

Certain observations and impressions deriving from the Vicksburg experience were more difficult to pin down but deserve, we nevertheless feel, more study. Some of these are the following: (1) the phenomenon of the appropriation of help-demanding roles, in which it would seem that a family often has the capacity of permitting only certain of its members to be seen as disturbed, although other members are equally in need; (2) the conflict parents seem to feel about whether to stay at home to reassure their children in the post-disaster period or whether to engage in rescue and rehabilitative work in the community; (3) the apparent usefulness to the child of peer group relationships in which the child can discuss tornado topics which are forbidden at home; (4) the significance to the child of the parents' immediate reaction to the tornado; (5) the problems presented by the American method of talking about death by indirection. The study also suggested that there might be certain recommendations made to parents and others about how best to reassure or help children after a disaster.

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